Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): In a mesh network that employs a hierarchical digital transmission standard, a method of operating a node to handle link failure, said method comprising:

detecting failure of a data communication link at a second hierarchical layer, wherein said link is employed by a plurality of paths defined at a first hierarchical layer above said second hierarchical layer;

signaling local repair of said failure using overhead information of said second hierarchical layer only without flooding throughout said mesh network; and

switching only protected ones of said plurality of paths to alternate routes through said network to avoid said failure.

Cancel Claim 2 (original): The method of claim 1 wherein said network comprises a mesh network.

Cancel Claim 3 (original): The method of claim 2 wherein signaling comprises: signaling without flooding throughout said mesh network.

Claim 4 (original): The method of claim 2 wherein said at least one of said plurality of paths is protected and at least one of said plurality of paths is unprotected.

Claim 5 (original): The method of claim 2 wherein said first hierarchical layer comprises STS-1 communications and said second hierarchical layer comprises OC-n communications.

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Claim 6 (original): The method of claim 2 wherein said first hierarchical layer comprises VT1.5 communications and said second hierarchical layer comprises STS-1 communications.

Claim 7 (original): The method of claim 2 further comprising:
pre-configuring which ones of said plurality of paths are protected.

Claim 8 (original): The method of claim 2 further comprising:
pre-configuring protection routes for said plurality of protected paths.

Claim 9 (currently amended): In a mesh network that employs a hierarchical digital transmission standard, apparatus for operating a node to handle link failure, said apparatus comprising:

means for detecting failure of a data communication link at a second hierarchical layer, wherein said link is employed by a plurality of paths defined at a first hierarchical layer above said second hierarchical layer;

means for signaling local repair of said failure using overhead information of said second hierarchical layer only without flooding throughout said mesh network; and

means for switching only protected ones of said plurality of paths to alternate routes through said network to avoid said failure.

Cancel Claim 10 (original): The apparatus of claim 9 wherein said network comprises a mesh network.

Cancel Claim 11 (currently amended): The apparatus of claim 9 10 wherein said means for signaling comprises:

means for signaling without flooding throughout said mesh network. ...

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Cancel Claim 12 (original): The apparatus of claim 10 wherein said at least one of said plurality of paths is protected and at least one of said plurality of paths is unprotected.

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Claim 13 (original): The apparatus of claim 10 wherein said first hierarchical layer comprises STS-1 communications and said second hierarchical layer comprises OC-n communications.

Claim 14 (original): The apparatus of claim 10 wherein said first hierarchical layer comprises VT1.5 communications and said second hierarchical layer comprises STS-1 communications.

Claim 15 (original): The apparatus of claim 10 further comprising:
means for pre-configuring which ones of said plurality of paths are protected.

Claim 16 (original): The apparatus of claim 10 further comprising:
means for pre-configuring protection routes for said plurality of protected paths.

Claim 17 (original): In a network that employs a hierarchical digital transmission standard, apparatus for operating a node to handle link failure, said apparatus comprising:
a processor;
a memory storing instructions for execution by said processor, said instructions comprising:
code that causes detection of failure of a data communication link defined at a second hierarchical layer, wherein said link is employed by a plurality of paths defined at a first hierarchical layer above said second hierarchical layer;
code that causes signaling of local repair of said failure using overhead information of said second hierarchical layer; and
code that causes switching of only protected ones of said plurality of paths to alternate routes through said network to avoid said failure.

Claim 18 (original): The apparatus of claim 17 wherein said network comprises a mesh network.

Claim 19 (original): The apparatus of claim 18 wherein said code that causes signaling comprises:

code that causes signaling without flooding throughout said mesh network.

Claim 20 (original): The apparatus of claim 18 wherein said at least one of said plurality of paths is protected and at least one of said plurality of paths is unprotected.

Claim 21 (original): The apparatus of claim 18 wherein said first hierarchical layer comprises STS-1 communications and said second hierarchical layer comprises OC-n communications.

Claim 22 (original): The apparatus of claim 18 wherein said first hierarchical layer comprises VT1.5 communications and said second hierarchical layer comprises STS-1 communications.

Claim 23 (original): The apparatus of claim 18 wherein said instructions further comprise:

code that causes preconfiguration of which ones of said plurality of paths are protected.

Claim 24 (original): The apparatus of claim 18 wherein said instructions further comprise:

code that causes preconfiguration of protection routes for said plurality of protected paths.

Claim 25 (original): In a network that employs a hierarchical digital transmission standard, a computer program product for operating a node to handle link failure, said computer program product comprising:

code that causes detection of failure of a data communication link defined at a second hierarchical layer, wherein said link is employed by a plurality of paths defined at a first hierarchical layer above said second hierarchical layer;

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      code that causes signaling of local repair of said failure using overhead information of said second hierarchical layer below said first hierarchical layer;

      code that causes switching of only protected ones of said plurality of paths to alternate routes through said network to avoid said failure; and

      a computer-readable storage medium that stores the codes.

      Claim 26 (previously presented): In a mesh network that employs a hierarchical digital transmission standard, a method of operating a node to handle link failure, said method comprising:

      detecting failure of a data communication link at a second hierarchical layer, wherein said link is employed by a plurality of paths defined at a first hierarchical layer above said second hierarchical layer;

      signaling local repair of said failure using overhead information of said second hierarchical layer without flooding throughout said mesh network; and

      switching only protected ones of said plurality of paths to alternate routes through said network to avoid said failure.

      Claim 27 (currently amended): In a mesh network that employs a hierarchical digital transmission standard, a method of operating a node to handle link failure, said method comprising:

      detecting failure of a data communication link at a second hierarchical layer comprising STS-1 communications, wherein said link is employed by a plurality of paths defined at a first hierarchical layer ~~comprising~~ comprising VT1.5 communications above said second hierarchical layer;

      signaling local repair of said failure using overhead information of said second hierarchical layer; and

      switching only protected ones of said plurality of paths to alternate routes through said network to avoid said failure.

Claim 28 (previously presented): In a network that employs a hierarchical digital transmission standard, a method of operating a node to handle link failure, said method comprising:

detecting failure of a data communication link at a second hierarchical layer, wherein said link is employed by a plurality of paths defined at a first hierarchical layer above said second hierarchical layer;

signaling local repair of said failure using overhead information of said second hierarchical layer ;

pre-configuring which ones of said plurality of paths are protected; and

switching only protected ones of said plurality of paths to alternate routes through said network to avoid said failure.

Claim 29 (previously presented): In a network that employs a hierarchical digital transmission standard, a method of operating a node to handle link failure, said method comprising:

detecting failure of a data communication link at a second hierarchical layer, wherein said link is employed by a plurality of paths defined at a first hierarchical layer above said second hierarchical layer;

signaling local repair of said failure using overhead information of said second hierarchical layer;

pre-configuring protection routes for said plurality of protected paths; and

switching only protected ones of said plurality of paths to protection routes through said network to avoid said failure.

Claim 30 (previously presented): In a mesh network that employs a hierarchical digital transmission standard, apparatus for operating a node to handle link failure, said apparatus comprising:

means for detecting failure of a data communication link at a second hierarchical layer, wherein said link is employed by a plurality of paths defined at a first hierarchical layer above said second hierarchical layer;

means for signaling local repair of said failure using overhead information of said second hierarchical layer signaling without flooding throughout said mesh network; and

means for switching only protected ones of said plurality of paths to alternate routes through said network to avoid said failure.

Claim 31 (previously presented): In a network that employs a hierarchical digital transmission standard, apparatus for operating a node to handle link failure, said apparatus comprising:

means for detecting failure of a data communication link at a second hierarchical layer comprising STS-1 communications, wherein said link is employed by a plurality of paths defined at a first hierarchical layer comprising VT1.5 communications above said second hierarchical layer;

means for signaling local repair of said failure using overhead information of said second hierarchical layer; and

means for switching only protected ones of said plurality of paths to alternate routes through said network to avoid said failure.

Claim 32 (previously presented): In a network that employs a hierarchical digital transmission standard, apparatus for operating a node to handle link failure, said apparatus comprising:

means for detecting failure of a data communication link at a second hierarchical layer, wherein said link is employed by a plurality of paths defined at a first hierarchical layer above said second hierarchical layer;

means for signaling local repair of said failure using overhead information of said second hierarchical layer;

means for pre-configuring which ones of said plurality of paths are protected; and

means for switching only protected ones of said plurality of paths to alternate routes through said network to avoid said failure.

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Claim 33 (previously presented): In a network that employs a hierarchical digital
transmission standard, apparatus for operating a node to handle link failure, said apparatus
comprising:

means for detecting failure of a data communication link at a second hierarchical layer,
wherein said link is employed by a plurality of paths defined at a first hierarchical layer above
said second hierarchical layer;

means for signaling local repair of said failure using overhead information of said second
hierarchical layer;

means for pre-configuring protection routes for said plurality of protected paths; and

means for switching only protected ones of said plurality of paths to protection routes
through said network to avoid said failure.